SHTRAUS, A.V.

Štraus, A. V. On generalized resolvents of a symmetric operator. Doklady Akad. Nauk SSSR (N.S.) 71, 241–244 (1950). (Russian)

This paper is related to a series of papers by Neumark [cf. Bull. Acad. Sci. URSS. Sér. Math. [Izvestia Akad. Nauk SSSR] 4, 53–104, 277–318 (1940); 7, 285–296 (1943); these Rev. 2, 102, 103; 5, 71] and Krein [C. R. (Doklady) Acad. Sci. URSS (N.S.) 43, 323–326 (1944); 52, 651–654 (1946); these Rev. 6, 131; 8, 277] on spectral functions of symmetric operators on a Hilbert space $\mathfrak{H}$. Using the results from two of his previous papers [Doklady Akad. Nauk SSSR (N.S.) 67, 611–614 (1949); 70, 577–580 (1950); these Rev. 11, 186, 442] the author obtains an expression for the generalized resolvents of a closed Hermitian operator A, whose domain is dense in $\mathfrak{H}$, for the case of arbitrary non-zero indices of deficiency, thus generalizing the results of Krein. In the notation of his previous papers [cf. these Rev. 11, 186] the formula for the generalized resolvent R_λ is

$$R_\lambda=(A-\lambda I)^{-1}(I-P(\lambda))-\frac{1}{\lambda-\bar{\lambda}}P(\lambda)$$
$$+\frac{1}{\lambda-\bar{\lambda}}P(\lambda)[(\lambda_0-\lambda)I-(\lambda_0-\bar{\lambda})F(\lambda)]$$
$$\times\{F(\lambda)[(\lambda_0-\lambda)I-(\lambda_0-\lambda)F(\lambda)]\}^{-1}P(\lambda),$$

where $\Im\lambda>0$, $\Im\lambda_0>0$, and $F(\lambda)$ is an arbitrary regular operator-function from $\mathfrak{M}(\lambda_0)$ to $\mathfrak{M}(\lambda_0)$ with $\|F(\lambda)\|<1$. The author states further that to distinct $F(\lambda)$ correspond distinct R_λ, and that resolvents corresponding to self-adjoint extensions of the second kind in Neumark's sense [cf. the 1st cited reference] are characterized by the condition $\|F(\lambda)\varphi\|<\|\varphi\|$ for all $\varphi\in\mathfrak{M}(\lambda_0)$, $\varphi\neq 0$. *B. Crabtree.*

Source: Mathematical Reviews, 1950 Vol 11 No. 8

SHTRAUS, A. V.

USSR/Mathematics - Resolvents 11 May 51

"Theory of Generalized Resolvents of Symmetrical Operator," A. V. Shtraus, Ul'yanov State Pedagogic Inst

"Dok Ak Nauk SSSR" Vol LXXVIII, No 2, pp 217-220

Gives a very simple interpretation of the general formula, which seems complicated at 1st glance, of the generalized resolvents of a closed sym operator A. Establishes the conditions necessary and sufficient that the operator function R_L be the generalized resolvent of a given sym operator A. Submitted by Acad A. N. Kolmogorov 7 Mar 51.

222T51

SHTRAUS, A.V.

Straus, A. V. Generalized resolvents of symmetric operators. Izvestiya Akad. Nauk SSSR. Ser. Mat. 18, 51–86 (1954). (Russian)

This paper presents an extension and generalization, with much simpler and more detailed proofs, of the results described in two previous short notes of the author [Doklady Akad. Nauk SSSR (N.S.) 78, 217–220 (1951); 82, 209–212 (1952); these Rev. 12, 837; 13, 755]. The generalization consists in not requiring the operator to be defined on a dense subset of Hilbert space H. The principal theorem characterizes the generalized resolvents of a closed symmetric operator on H as follows: For each complex λ with $\mathrm{Im}\,(\lambda)\neq 0$ let there be given a linear operator R_λ defined throughout H. Then in order that the family $\{R_\lambda\}$ be a generalized resolvent of some closed symmetric operator with deficiency index m in the half-plane π it is necessary and sufficient that: (1) for every $\lambda_0 \in \pi$ there exists a subspace $L \subset H$ with deficiency index m such that

(a) $$R_\mu f - R_{\lambda_0} f = (\mu - \lambda_0) R_\mu R_{\lambda_0} f$$

for every $\mu\,(\mathrm{Im}\,(\mu)\neq 0)$ and every $f \in L$,

(b) $$\|R_\lambda \Psi\|^2 \leqq \tau^{-1}\,\mathrm{Im}\,(R_\lambda \Psi, \Psi)$$

STRAUS, A IV

for every $\lambda \in \pi$ and every $\Psi \in H \ominus L$ ($r = \mathrm{Im}(\lambda)$), (c) $R_\lambda \Psi$ is a regular vector-valued function of λ in π for every fixed $\Psi \in H \ominus L$, (d) there exists a sequence $\lambda_n = \sigma_n + i\tau_n$ with $\lim \lambda_n = \infty$ and $\sup|\sigma_n/\tau_n| < +\infty$ and such that for every $\varphi \in H \ominus \overline{R_\lambda L}$ we have

$$\lim \lambda_n (R_{\lambda_n} \varphi, \varphi) = -(\varphi, \varphi);$$

(2) for any complex number λ in the half-plane π, $K_\lambda^* = K_{\bar{\lambda}}$.

B. Crabtree (Durham, N. H.).

SHTRAUS, A.V.

Spectral functions of differential operators. Izv.AN SSSR. Ser. mat.19 no.4:201-220 Jl-Ag'55. (MLRA 8:10)

1. Predstavleno akademikom S.L.Sobolevym
(Operators(Mathematics)) (Functions)

SHTRAUS, A.V.

Eigenfucntion expansion of boundary problem of the second order on a semiaxis. Izv.AN SSSR.Ser.mat. 20 no.6:783-792 N-D '56. (MLRA 10:1)

1. Predstavleno akademikom M.A.Lavrent'yevym.
(Eigenfunctions)

SHTRAUS, A.V.

Aformula of generalized resolvents for a differential operator of an even order. Dokl.AN SSSR 111 no.4:773-776 D '56. (MLRA 10:2)

1. Ul'yanovskiy gosudarstvennyy pedagogicheskiy institut. Predstavleno akademikom A.N.Kolmogorovym.
(Functional analysis) (Operators (Mathematics))

SHTRAUS, A.V.

Generalized resolvents of symmetric operators and expansion in proper functions of a class of boundary problems. Usp.mat.nauk 12 no.1:251-253 Ja-F '57. (MLRA 10:7)
(Operators (Mathematics))

SHTRAUS, A V.

38-6-3/5

AUTHOR: SHTRAUS, A.V.

TITLE: On Generalized Resolvents and Spectral Functions of the Differential Operators of Even Order (Ob obobshchennykh rezolventakh i spektral'nykh funktsiyakh differentsial'nykh operatorov chetnogo poryadka

PERIODICAL: Izvestiia Akademii Nauk, SSSR, Seriya Matematicheskaya, 1957 Vol.21, Nr.6, pp. 785-808 (USSR)

ABSTRACT: The author considers a symmetrical, ordinary differential operator L of even order and a minimal region of definition. For the establishment of a formula for all (orthogonal and not orthogonal) spectral functions of L he investigates at first the generalized resolvents R_λ of L. The paper bases on an earlier paper of the author [Ref.8] .It is stated that all these resolvents are integral operators, where their kernels satisfy the conditions

$$\int_a^b |K(x,s,\lambda)|^2 dx < +\infty, \quad \int_a^b |K(x,s,\lambda)|^2 ds < +\infty, \quad x,s \in (a,b)$$

For the construction of the kernel of R_λ, a certain matrix

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function $M(\lambda)$ is essential which is called the characteristic matrix of R_λ. The properties of $M(\lambda)$ admit to obtain the formula for all spectral functions of the operator L by application of the reversion formula due to Stieltjes.
Nine Soviet references are quoted.

PRESENTED: By S.L.Sobolev, Academician
SUBMITTED: October 18, 1956
AVAILABLE: Library of Congress

SHTRAUS, A. V.

20-1-17-54

AUTHOR: Shtraus, A.V.

TITLE: On the Spectral Distribution of an Even Order Differential Operator
(O spektral'nykh funktsiyakh differentsial'nogo operatora chetnogo po_ryadka)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 1, pp. 67 - 70 (USSR)

ABSTRACT: 1 [y] here designates a self-adjoined ordinary differential operator of even order with real coefficients assumed in the interval (a. b). The ends of this interval may be regular or singular. From this term 1 [y] results in the Hilbert space $L^2(a, b)$ a symmetrical differential operator L with a minimum definiting domain. By means of a formula earlier derived by the author (Shtraus, A.V., Doklady Akad. Nauk, 1957, Vol. 111, Nr 4, p.773 (1956)), this paper discusses the effective construction of all spectral functions of this operator. Under the presupposition that both ends of the interval (a,b) are regular, it investigates a class of problems with limiting conditions that depend on a parameter. Moreover a formula for the development according to the

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20-1-17-54

On the Spectral Distribution of an Even Order Differential Operator

eigenfunctions of such problems is derived. The present paper gives altogether 6 theorems. The first of them reads as follows: The characteristic matrix $M(\lambda)$ of any generalized resolvent R_λ of the operator L is in the upper and in the lower semiplane a regular function of the parameter λ, where $M(\bar{\lambda}) = M^*(\lambda)$ applies. For any λ on the upper semiplane the matrix

$\operatorname{Im} M(\lambda) = (1/2i)[M(\lambda) - M^*(\lambda)]$ is hermitically not commutative: $\operatorname{Im} M(\lambda) \gtrless 0$.

Then the properties of the quadratic matrices $A(\lambda)$ and $B(\lambda)$ are enumerated. The author here investigates the boundary value problem $l[y] - \lambda y = 0$, $A(\lambda)\hat{y}(a) + B(\lambda)\hat{y}(b) = 0$ and gives a theorem for it.
There are 4 Russian references, no figures.

ASSOCIATION: State Pedagogical Institute imeni I.N. Ul'yanov in Ul'yanovsk (Ul'yanovskiy gosudarstvenniy pedagogicheskiy institut im. I.N. Ul'yanova)
PRESENTED BY: A.N. Kolmogorov, Academician, January 23, 1957
SUBMITTED: May 10, 1957
AVAILABLE: Library of Congress

Card 2/2

AUTHOR: Shtraus, A.V. SOV/42-13-6-25/33

TITLE: On the Spectral Functions of the Differential Operator
(O spektral'nykh funktsiyakh operatora differentsirovaniya)

PERIODICAL: Uspekhi matematicheskikh nauk, 1958, Vol 13, Nr 6, pp 185-191 (USSR)

ABSTRACT: In the Hilbert space $L^2(0,1)$ the operation $i\frac{d}{dx}$ generates the differential operator A: $Af = i\frac{df}{dx}$. The present paper contains the description of all (orthogonal and non-orthogonal) spectral function of A. For arbitrary real α and β let $E_{\alpha,\beta} = \frac{E_{\beta}+E_{\beta+0}}{2} - \frac{E_{\alpha}+E_{\alpha+0}}{2}$, where E_t $(-\infty<t<+\infty)$ is a spectral function of A. Then the set of all E_t is defined by

$$E_{\alpha,\beta} f = \int_{\alpha}^{\beta} d\varrho(t) \int_{0}^{1} e^{it(s-x)} f(s)\,ds,$$

where

$$\varrho(t) = \frac{1}{\pi} \lim_{\tau\to+0} \int_{0}^{t} \operatorname{Im} M(\sigma+i\tau)\,d\sigma.$$

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The function M is connected with the generalized resolvents R_λ of A. Namely it holds

$$R_\lambda f = \int_0^1 K(x,s,\lambda)f(s)ds,$$

where $K(x,s,\lambda) = \left[M(\lambda)+\frac{i}{2}\,\mathrm{sgn}(s-x)\right]e^{i\lambda(s-x)} \quad (0 \leq x,\ s \leq 1)$.

There are 13 Soviet references.

SUBMITTED: May 17, 1957

Card 2/2

16(1)

AUTHOR: Shtraus, A.V. SOV/20-126-3-15/69

TITLE: Characteristic Functions of Linear Operators

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 3, pp 514-516 (USSR)

ABSTRACT: The notion of a characteristic function introduced firstly by M.S.Livshits [Ref 1] for very special functions now is defined by the author for arbitrary linear operators with a dense region of definition and a non-empty set of regular points. The author investigates the question how exact an operator is fixed by its characteristic function. It is shown that certain simple operators with the same characteristic function are unitary equivalent and reversely. Two theorems and two lemmas are given altogether. The author mentions A.I.Mal'tsev, N.I.Akhiyezer, and I.M.Glazman. There are 17 Soviet references.

ASSOCIATION: Ul'yanovskiy gosudarstvennyy pedagogicheskiy institut (Ul'yanovsk State Pedagogical Institute)

PRESENTED: February 16, 1959, by P.S.Aleksandrov, Academician

SUBMITTED: February 11, 1959

Card 1/1

SOV/20-126-4-9/

16(1) Shtraus, A.V.

AUTHOR:

TITLE: On the Multiplication Theorem for Characteristic Functions of Linear Operators

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 4, pp 723-726 (USSR)

ABSTRACT: Let A be a closed linear operator; let D_A be dense in the Hilbert space H. Let A have an invariant subspace $H_1 \subset H$, $H_1 \neq H$, different from zero, where $\overline{D_A \cap H_1} = H_1$. Let $A_1 = A\big|_{D_A \cap H_1}$ be an operator in H_1. Let $H_2 = H \ominus H_1$. Let P_j be the projection operator of H onto H_j. Let the operator A_2 with $D_{A_2} = P_2 D_A$ be defined by $A_2 P_2 f = P_1 A f$ ($f \in D_A$). The operator A is denoted as a coupling of A_1 and A_2 (according to M.A.Naymark [Ref 10]) A is the extension of second kind of A_2). For certain classes of couplings the author formulates a multiplication theorem for the corresponding characteristic functions (compare Shtraus [Ref 9]). Then the notion of a generalized characteristic

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academician

SHTRAUS, A. V., Doc Phys-Math Sci (diss) -- "Some problems in the spectral theory of symmetrical operators". Moscow, 1960. 19 pp (Moscow State U im M. V. Lomonosov), 150 copies (KL,No 14, 1960, 125)

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S/038/60/024/01/002/006

~~16(1)~~ 16.4600

AUTHOR: Shtraus, A.V.

TITLE: Characteristic Functions of Linear Operators

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya matematicheskaya, 1960, Vol 24, Nr 1, pp 43-74 (USSR)

ABSTRACT: Let A be a linear operator in the Hilbert space H with the region of definition D_A and with the non-empty set of regular points Λ_A. Let G_A be the linear manifold of all $g \in D_A$ for which $(Af,g) = (f,Ag)$ for all $f \in D_A$. In the factor space $L_A = D_A/G_A$ let the scalar product be explained by

(1.1) $$[\xi, \xi_1] = \frac{1}{i}[(Af,f_1)-(f,Af_1)],$$

where $f \in \xi$, $f_1 \in \xi_1$. A linear space L with a scalar product $[\varphi, \varphi_1]$ is called a limit space of A if there exists a linear operator Γ which maps D_A onto L and for which $[\Gamma f, \Gamma f] = \frac{1}{i}[(Af,f)-(f,Af)]$. Γ is called the limit operator. Let L'

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Characteristic Functions of Linear Operators

and G' be the limit space and limit operator of A^*; let Λ_{A^*} be the set of complex numbers λ being regular points of A^*. Let

(1.5) $S_\lambda = (A^* - \lambda E)^{-1}(A - \lambda E)$.

Lemma: For all $\lambda \in \Lambda_{A^*}$ the set of all fixed elements of S_λ is identical with G_A. Definition: The characteristic function of A is the operator function $X(\lambda)$, $\lambda \in \Lambda_{A^*}$, which is explained by

(1.6) $X(\lambda)\Gamma f = \Gamma' S_\lambda f, \quad f \in D_A$.

This definition of the characteristic function deviating from the usual one (compare [Ref 1,3-16]) is used in order to formulate conditions for the unitary equivalence of non-selfadjoint operators. The proposed definition of the characteristic function is compared with well-known other definitions. The author treats the connection between the

Card 2/3

SHTRAUS, A.V.

Certain families of extensions of a symmetric operator. Dokl. AN SSSR 139 no.2:316-319 Jl '61. (MIRA 14:7)

1. Predstavleno akademikom A.N. Kolmogorovym.
(Boundary value problems) (Operators (Mathematics))
(Spaces, Generalized)

SHTRAUS, A.V.

Self-adjoint operators in an orthogonal sum of Hilbert spaces.
Dokl.AN SSSR 144 no.3:512-515 My '62. (MIRA 15:5)

1. Predstavleno akademikom A.N.Kolmogorovym.
(Operators (Mathematics)) (Hilbert space)

PULKIN, S.P., prof., glav. red.; BREDIKHIN, B.M., dots., red.
YEGOROV, I.P., prof., red.; MURZAYEV, Ye.A., dots., red.;
SHTRAUS, A.V., prof., red.; SHCHERBAKOV, A.I., tekhn.red.

[Transactions of the Conference of Mathematics of Pedagogical Institutes in regions of the Volga Valley] Trudy vtoroy nauchnoy konferentsii matematicheskikh kafedr pedagogicheskikh institutov Povolzh'ya. Kuibyshev, Kuibyshevskii gos. pedagog. in-t im. V.V.Kuibysheva. No.1. [Theoretical reports. Reports on the methodology of teaching mathematical sciences in pedagogical institutes] Teoreticheskie doklady. Doklady po metodike prepodavaniia matematicheskikh distsiplin v pedagogicheskom institute. 1962. 234 p. (MIRA 16:4)

1. Nauchnaya konferentsiya matematicheskikh kafedr pedagogicheskikh institutov Povolzh'ya, 2d, Ul'yanovsk, 1961.
(Mathematics--Study and teaching)

SHTRAUS, A.V.

Spectral resolutions of symmetric operators. Dokl. AN SSSR 152 no.3:563-566 S '63. (MIRA 16:12)

1. Predstavleno akademikom I.M.Vinogradovym.

SHTRAUS, A.V.

Extensions of a symmetrical operator depending on the parameter. Izv. AN SSSR Ser. mat. 29 no. 6:1389-1416 '65 (MIRA 19:1)

1. Submitted April 22, 1965.

SHTRAUS, A.V. (Ul'yanovsk)

Spectral theory of symmetric operators. Volzh. mat. sbor. no.1:221-226 '63. (MIRA 19:1)

KUPCHA, S.; SHTRAUS, Kh.: LENGEL', I.; DELYANU, M.; KOMES, V.

Sanitary and hygienic study of air pollution in the city of T. of the Rumanian People's Republic. Trudy LSGMI no.58:113-116 '60. (MIRA 14:11)

(RUMANIA--AIR POLLUTION)

SHTRAUS, Kh.; LENGEL, I.; FRICH, T.

Influence of air pollution from cement dust on the body and public health. Trudy LSGMI no.5[illegible]:102-112 '60. (MIRA 14:11)
(RUMANIA--AIR POLLUTION) (RUMANIA--PUBLIC HEALTH)

SHTRAUS, Kh.; GEL'BERG, N.; MERDZHINYANU, Ch.

Iodine content of water supply sources in relation to the distribution of endemic goiter. Trudy LSGMI no.50:221-236 '60. (MIRA 14:11)

(TRANSYLVANIA--GOITER) (IODINE)
(TRANSYLVANIA--WATER--ANALYSIS)

SHTRAUS, V. (UA9SA)

Let's prepare for new trips and excursions. Radio no.6:15 Je '60.
(MIRA 13:7)

1. Predsedatel' soveta Burguruslanskogo radiokluba Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu.
(Amateur radio stations)

SHTRAUS, V. (UA9SA)

Interesting communications on 144 mc. Radio no.12:55 D '60.
(MIRA 14:1)

(Radio, Shortwave)

GULYAYEV, G.; GAUKHMAN, R., master radiosporta (Moskva); GONCHARSKIY, V.; master radiosporta (L'vov); BUNIMOVICH, S., master radiosporta, (Stalino); SELEVKO, Yu., master radiosporta; IVANOVA, Ye., master radiosporta (Chelyabinsk); LABUTIN, L., master radiosporta (Moskva); SHEYKO, V., master radiosporta; GESELEV, B., master, radiosporta (Khar'kov); Shtraus, V., pervorazryadnik (Buguruslan); VOLOSYAN, M., pervorazryadnik (Simferopol').

Is it really entertainment and not sport? Radio no.5:13-14 My '60. (MIRA 13:12)

1. Predsedatel' sportivnoy komissii Federatsii radiosporta SSSR (for Gulyayev).

(Amateur radio stations)

SHTRAUS, Z.E. (Moskva, ul. Gor'kogo, 41, kv.46)

Mortality indices in chronic diseases and malignant tumors.
Vop. onk. 9 no.12:22-26 '63. (MIRA 17:12)

1. Iz kafedry organizatsii zdravookhraneniya (zav. - dr. med. nauk S.V. Kurashov) 1-go Moskovskogo ordena Lenina meditsinskogo instituta (rektor - V.V. Kovanov).

Use of statistics in clinical and experimental studies. Sov. zdrav. 17 no.10:16-22 O '58 (MIRA 11:11)
(STATISTICS,
in med. research (Ger)

SHTRAUS, Z.E.

Important source for the evaluation of the quality of medical attendance for the population. Zdrav. Ros. Feder. 5 no.12:30-33 D '61. (MIRA 15:1)

1. Iz kafedry organizatsii zdravookhraneniya (zav. S.V.Kurashov) I Moskovskogo ordena Lenina meditsinskogo instituta (rektor - prof. V.V. Kovanov).
(PUBLIC HEALTH) (DEATH)

SHTRAUS, Z. E.

Incidence of malignant neoplasms among the population of Moscow. Zdrav. Ros. Feder. 6 no.5:20-25 My '62. (MIRA 15:7)

1. Iz kafedry organizatsii zdravookhraneniya (zav. S. V. Kurashov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I. M. Sechenova.

(MOSCOW--CANCER)

SHTRAUS, Z.E. (Moskva)

Statistics in oncology. Sov. zdrav. 21 no.6:14-17 '62. (MIRA 15:5)

1. Iz kafedry organizatsii zdravookhraneniya (zav. - S.V.Kurashov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.
(ONCOLOGY) (MEDICAL STATISTICS)

RODOV, Ya.I.; KOSAGOVSKIY, I.V.; GOMEL'SKAYA, G.L.; LAVROVA, I.T.; SOBOLEVSKIY, G.N.; SHTRAUS, Z.E.; TROSHINA, I.M.; FERSHTUDT, V.I.

"Theory and organization of the Soviet public health system" by G.A. Batkis and L.G.Lekarev. Reviewed by IA.I. Rodov and others. Zdrav. Ros. Feder. 6 no.4:41-42 Ap '62. (MIRA 15:4)
(PUBLIC HEALTH) (BATKIS, G.A.) (LEKAREV, L.G.)

SHTRAUSBERG, D. V.

USSR/Agriculture - Plant Physiology

Card : 1/1

Authors : Zhurbitskiy, Z. I., and Shtrausberg, D. V.

Title : Effect of temperature on phosphorus and calcium absorption by plants

Periodical : Dokl. AN SSSR, 96, Ed. 5, 1065 - 1067, June 1954

Abstract : The effect of temperature on the individual feeding elements (phosphorus, calcium) of plants was investigated. This investigation is of particular importance for northern agricultural regions where lower temperatures retard the growth of plants and the brief vegetation period necessitates finding much faster rates of plant growth and development. One reference. Tables.

Institution : Academy of Sciences, USSR, Kolsk Branch

Presented by : Academician, A. L. Kursanov, April 12, 1954

SHTRAUSBERG, D. V. and ZHUNBITSKYY, Z. I.

"The influence of temperature on the mineral assimilation of plants," a paper submitted at the International Conference on Radioisotopes in Scientific Research, Paris, 9-20 Sep 57.

SHTRAUSBERG, D.V.

Assimilation of nutritive elements by plants in polar regions under different temperature conditions [with summary in English]. Fiziol. rast. 5 no.3:228-234 My-Je '58. (MIRA 11:6)

1. Kol'skiy filial Akademii nauk SSSR, Kirovsk.
(Arctic regions—Plants—Assimilation)
(Plants, Effect of temperature on)

SHTRAUSBERG, D. V., Cand Biol Sci (diss) -- "Plant feeding at reduced temperatures". Moscow, 1960. 25 pp (Inst of Plant Physiology im K. A. Timiryazev of the Acad Sci USSR), 200 copies (KL, No 12, 1960, 126)

ZHURBITSKIY, Z.I.; SHTRAUSBERG, D.V.

Foliar diagnosis of nitrogen and potassium requirements in the tea plant. Fiziol. rast. 10 no.3:377-382 My-Je '63. (MIRA 16:6)

1. K.A.Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Tea--Fertilizers and manures) (Plants--Chemical analysis)

SHTRAUSBERG, Dal' Vital'yevna; ZHURBITSKIY, Z.I., prof., otv. red.

[Plant feeding at low temperatures] Pitanie rastenii pri ponizhennykh temperaturakh. Moskva, Nauka, 1965. 141 p. (MIRA 18:4)

ZHURBITSKIY, Z.I., doktor biolog. nauk; SHTRAUSBERG, D.V., kand. biolog. nauk

Theoretical basis of the control of mineral nutrition of plants; conference in Moscow. Vest. AN SSSR 35 no.4:102-104 Ap '65.
(MIRA 18:6)

SHTRAYKH, G.

"Regularity of the general growth of brids as related to some external and internal factors." (p. 283) Laboratory of the Mechanics of Development (Chief: Yu. Yu. Shaksel), USSR Academy of Sciences; and Department of Endocrine Factory of Development (Chief: regular member V. F. Larinov), Institute of Experimental Morphology, Moscow. by Shtraykh, G and Svetozarov, E.

SO: Biological Journal (Biologicheskii Zhurnal) Vol. VI, 1937, No. 12

SHTRAYKH, G.

"Experimental Analysis Of The Sexual And Seasonal Dimorphism Of The Feathers Of Ducks. Department of Endocrine Factors Of Growth (Chief: V. F. Larionov), Institute Of Experimental Morphology, Moscow State University; and the Laboratory Of The Mechanics Of Growth (Chief; Prof. Yu. Yu. Shaksel), USSR Academy Of Sciences." (p. 325) by Svetozarov, E. and Shtraykh, G.

SO: PROCESSOR OF JOURNAL OF GENERAL BIOLOGY. (Biologicheskii Zhurnal) Vol. VII, 1938, No. 2

SHTRAĬKH, S.

"The reflexus of the brain. Manifesto of Russian materialism of 60 years." (p. 108) by Sechenov, I. M., Reviewed by Shtraikh, S.

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologii) Vol. 16, No. 1, 1943.

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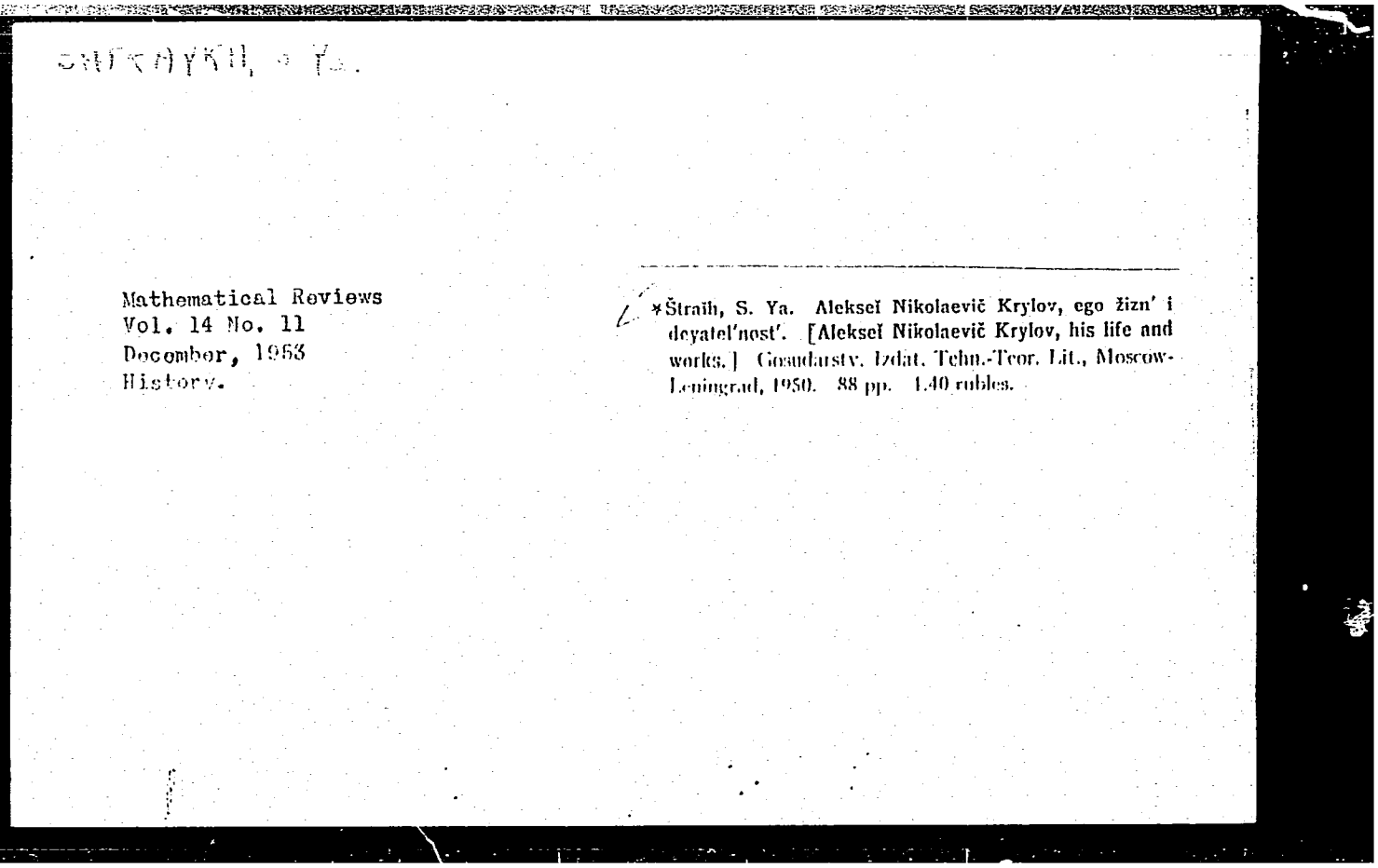
"[illegible] Darwinism" (p. [illegible]) by [illegible]chnikov, I. I., edited by Ko[illegible]rova, V. L. (Acad.) and Bel[illegible], I. I. (Prof.). (1943, [illegible] pages) Reviewed by Shr[illegible], S.

So: Advances in Conte[illegible]ary Biology (Usp[illegible]hi Sovremen[illegible] Biologii) Vol. 17, 1944, No. 2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550110003-5"



SHTRAYKH, S. Ya.

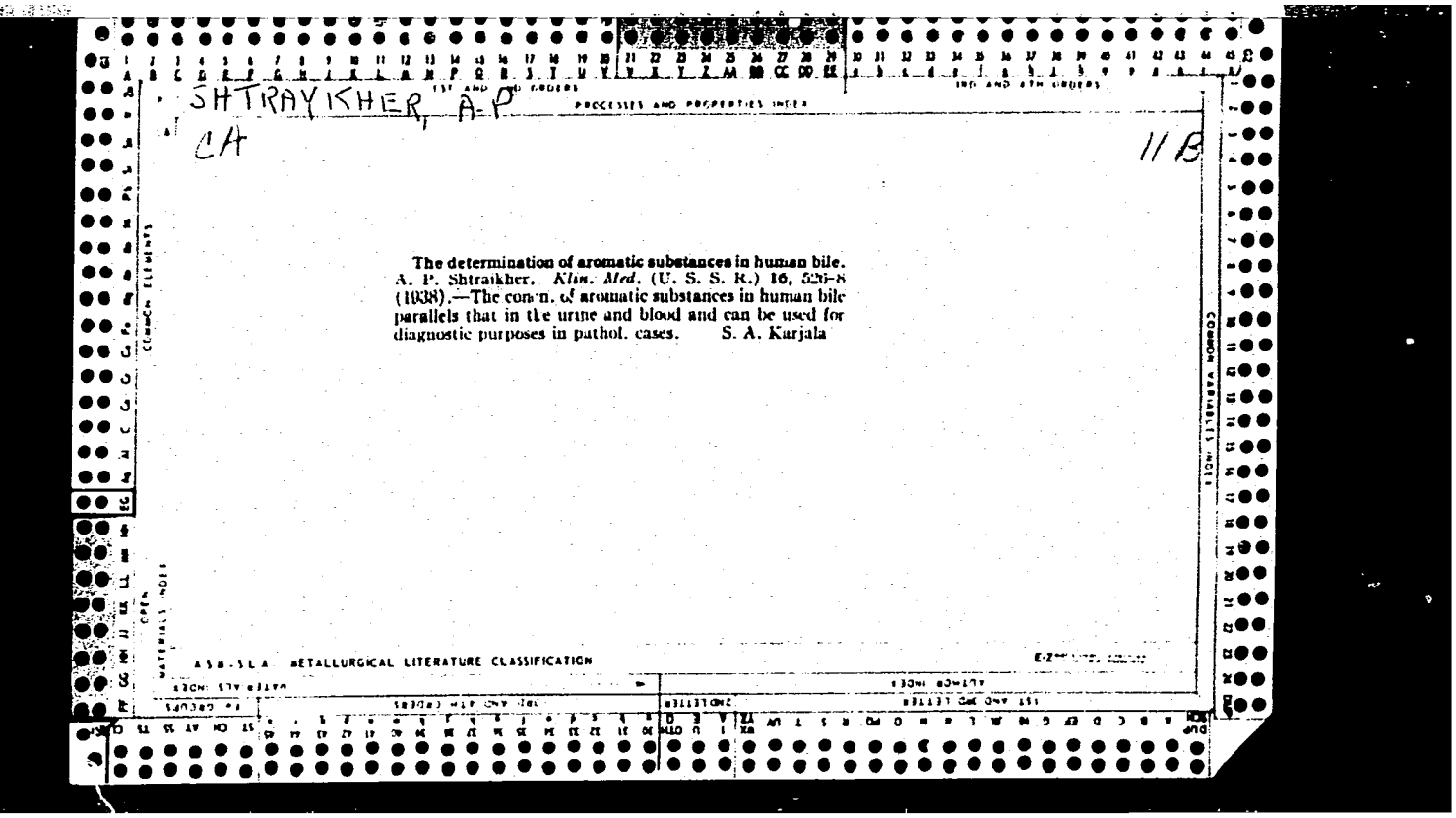
Mathematical Reviews
Vol. 14 No. 11
December, 1953
History.

*Štraih, S. Ya. Alekseĭ Nikolaevič Krylov, ego žizn' i deyatel'nost'. [Alekseĭ Nikolaevič Krylov, his life and works.] Gosudarstv. Izdat. Tehn.-Teor. Lit., Moscow-Leningrad, 1950. 88 pp. 1.40 rubles.

TAL'YANSKIY, I.; SHTRAYKHER, A.; KOREPANOV, V.; MEDVEDEV, S.

Universal record players and long-playing records. Radio no.8:11 Ag '53. (MLRA 6:8)

(Phonograph records) (Phonograph)



SHTRAYKHER, A. P.

CA

11 B

The determination of aromatic substances in human bile. A. P. Shtraikher. *Klin. Med.* (U. S. S. R.) **16**, 526–8 (1938).—The concn. of aromatic substances in human bile parallels that in the urine and blood and can be used for diagnostic purposes in pathol. cases. S. A. Karjala

SHTRAYKHER, A.P., dots.

Case of pleurisy and peritonitis with cholesterol effusion. Vrach. delo supplement '57:13 (MIRA 11:3)

1. Vrachebno-sanitarnaya sluzhba Ufimskoy zheleznoy dorogi.
(PLEURISY) (PERITONITIS) (CHOLESTEROL)

KALININA, O.S., SHTRAYKHER, A.P. (Bashkirskaya ASSR)

Changes in arterial pressure, pulse, circulation rate and electrocardiographic indices in hypertension following meat and vegetable diets. Terap. arkh. 30 no.7:72-76 Jl '58 (MIRA 11:8)

(HYPERTENSION, therapy
diets, eff. of meat & vegetables on various cardiovasc. factors (Rus))
(DIETS, in var. dis.
hypertension, eff. of meat & vegetables on various cardiovasc. factors (Rus))

76-32-3-4/43

AUTHORS: Shtraykhman, G. A., Vansheydt, A. A., Petrova, G. A.

TITLE: Investigations on the Effect of the Structure of Unsaturated Compounds on Their Reactivity in Copolymerization Processes (Issledovaniye vliyaniya struktury nenasyshchennykh soyedineniy na ikh reaktsionnosposobnost' v protsessakh sopolimerizatsii). I. The Determination of the Constant of Relative Activity of Monomers for the General Case of Copolymerization (I. Opredeleniye konstant otnositel'noy aktivnosti monomerov dlya obshchego sluchaya sopolimerizatsii)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol 32, Nr 3, pp 512-519 (USSR)

ABSTRACT: Presently 5 methods for the determination of the constant of the relative activity of monomers, the so-called "copolymerization constant", exist: those, according to Alfrey et al. (Ref 3), according to Mayo and Lewis (Ref 1), according to Fineman and Ross (Ref 5), according to S. S. Medvedev and A. D. Abkin (Ref 6) and according to Joshi and Kapur (Ref 7). All methods, except the last-mentioned, are of graphical type and depend on subjectivity in determining the constant, whilst that one (last-mentioned) is objective. However, it only

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Investigations on the Effect of the Structure of Unsaturated Compounds on Their Reactivity in Copolymerization Processes. I. The Determination of the Constant of Relative Activity of Monomers for the General Case of Copolymerization

can be employed for experiments at small conversion depth. The present work describes an analytical method for determining the copolymerization constants r_1 and r_2 based on the application of the integral form of the composition equation, as a further development of the method according to Mayo and Lewis. The differential form of the equation of composition of the copolymers was determined beside Mayo and Lewis, independently by Alfrey and Goldfinger (Ref 8), as well as by Wall (Ref 9). The present method has some advantages, compared with that last-mentioned, if a sharply marked difference exists between the composition of the copolymer and that of reaction mixture. Accordingly, as in the method of Mayo and Lewis the deviation from the linear form (even a small one) of the experimental lines is not taken into consideration, the described method introduces a mean value (parameter p), which is considered as constant in the system to be investigated. The parameter p is determined by a test series and is applied in the computations of r_1 and r_2, whereby the shape of the curve of the function $r_2 = f(r_1)$ is considered.

Investigations on the Effect of the Structure of Unsaturated Compounds on Their Reactivity in Copolymerization Processes. I. The Determination of the Constant of Relative Activity of Monomers for the General Case of Copolymerization

Also a graphical variant of the method is possible, whereat diagrams r_2 - p are drawn, and a mean value for p is taken from the intersections of the curves and is applied in the further calculations. This method was applied in calculating the copolymerization constants in the system methyl metacrylate - methacrylamine, whereat a value of $p_{cp} = -1.279$ (p=const) and $r_1 = 1.65 \pm 0.05$ and $r_2 = 0.49 \pm 0.02$ (at 70°C) is given. This is in agreement with data of Crauwels and Smets (Ref 11). Data on the experimental procedure are given, whereat among others, it is to be seen that the experiments were performed with (0.1 weight %) benzoyl peroxide, at 70°C. There are 1 figure, 4 tables, and 12 references, 4 of which are Soviet.

ASSOCIATION: Akademiya nauk SSSR, Institut vysokomolekulyarnykh soyedineniy, Leningrad (AS USSR Leningrad Institute of High-molecular Compounds)

SUBMITTED: July 7, 1956

5(3) SOV/80-32-3-37/43

AUTHOR: Shtraykhman, G.A.

TITLE: On the Mechanism of the Processes of Combined Polycondensation (O mekhanizme protsessov sovmestnoy polikondensatsii)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 3, pp 673-676 (USSR)

ABSTRACT: There is no theory for the polycondensation processes. Polycondensation proceeds like a series of consecutive condensation processes. The reacting molecules must have at least two functional groups. Flori [Ref. 11] showed that during all stages of polycondensation the activity of each functional group is the same, i.e. the molecule structure has no effect on the activity of the functional group and need not be considered. The ratio of the rates of the elementary reactions during an isothermal process is a constant. It is designated by α. The concentrations of the functional groups in the mixture may be determined by an indirect method if the direct method is not applicable. These values are designated by a. and b. The composition of the copolymer can be calculated from the values of α, a and b.

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On the Mechanism of the Processes of Combined Polycondensation

There are 11 references, 8 of which are Soviet and 3 American.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High-Molecular Compounds of the USSR Academy of Sciences)

SUBMITTED: January 14, 1958

5(4)

AUTHORS: Petrova, G. A., Shtraykhman, G. A., Vansheydt, A. A. SOV/76-33-6-12/44

TITLE: Investigation of the Influence of the Structure of Unsaturated Compounds Upon Their Reactivity in Co-polymerization Processes (Issledovaniye vliyaniya struktury nenasyshchennykh soyedineniy na ikh reaktsionnosposobnost' v protsessakh sopolimerizatsii). II. Influence of Various Substituents at the Nitrogen Upon the Reactivity of the Derivatives of Methacrylamide With Respect to a General Type of Radical (II. Vliyaniye razlichnykh zamestiteley pri azote na reaktsionnosposobnost' proizvodnykh metakrilamida po otnosheniyu k obshchemu tipu radikala)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1246-1252 (USSR)

ABSTRACT: An investigation was made of the co-polymerization (C) of methylmethacrylate (I) with methyl-, ethyl-, phenyl-, n-tolyl-, n-anisyl methacrylamide (II) as well as methacrylyl glycine ester and the dimethyl ester of methacrylyl imino acetic acid. The two last mentioned compounds were synthesized for the first time. On the strength of the co-polymerization constants (CC)

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(r_1 and r_2) obtained, the authors determined the relative activities of the monomers, which characterize the influence of the various substituents on reactivity (with respect to the general radical of (I)) (Table 3). A computation was made of the values of the specific acitivity Q and polarity e (Table 4) of the monomers; by the aid of these values the position of the monomers is determined in the coordinate system Q - e. The (C) occurred at 70° in sealed glass ampules under the addition of 0.1 % benzoyl peroxide. The results of (C) are shown (Table 1) as well as the properties of the monomers and the (CC) obtained (Table 2). The aromatic derivatives of methacrylamide are found to exhibit a higher activity than the aliphatic derivatives; thus, for example, the activity of (II) is almost 12 times higher than that of the non-substituted amide. The position of the monomers in the series of relative activities agrees with present conceptions concerning the influence of the substituents in

Investigation of the Influence of the Structure of Unsaturated Compounds Upon Their Reactivity in Co-polymerization Processes. II. Influence of Various Substituents at the Nitrogen Upon the Reactivity of the Derivatives of Methacrylamide With Respect to a General Type of Radical

SOV/76-33-6-12/44

the case of double bonds on the degree of bond and polarity; the same applies to the experimentally determined values of Q and e. Pertinent explanations as well as data concerning the influence of some substituents on the activity of the monomers (Table 5) are supplied. There are 5 tables and 12 references, 4 of which are Soviet.

ASSOCIATION: Akademiya nauk SSSR, Institut vysokomolekulyarnykh soyedineniy Leningrad (Academy of Sciences of the USSR, Institute of High-molecular Compounds, Leningrad)

SUBMITTED: October 26, 1957

Card 3/3

85449

S/080/60/033/011/011/014
A003/A001

15.8109

AUTHORS: Shtraykhman, G. A., Al'shits, L. M., Zhidobina, I. A., Luchko, R. G.

TITLE: Thixotropic Systems on the Base of the Unsaturated ПН-1 (PN-1) Polyester Resin and Powdered Silica Gel

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol. 33, No. 11, pp. 2586-2593

TEXT: The thixotropic properties of suspensions were investigated consisting of unsaturated polyester resin and some types of powdered silica gel with a view to using them in the manufacture of articles made of glass plastics with vertical and inclined surfaces. In the experiments the PN-1 resin was used which is produced according to BTU 33024-59 NCHX (VTU 33024-59 LSNKh). Several types of powdered silica gel, like the types A (A), Ya-333 (Ya-333) and various experimental samples were studied. It was found that for the impregnation of glass fabrics on vertical surfaces only one third of binding material is needed to prevent flowing-off compared to other glass plastics products. The efficiency of the thixotropic filler depends on the degree of its dispersion. With an increase in dispersion the efficiency increases rapidly in the beginning, then the increase becomes slower and, after reaching a certain value, it has no appreciable effect

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Thixotropic Systems on the Base of the Unsaturated NH-1 (PN-1) Polyester Resin and Powdered Silica Gel

on the efficiency. The structural viscosity and the shear stress limit were determined by measuring the rate of flow through a pipe in capillary viscosimeters of the Ubbelohde type. For determining the constants of the viscosimeter glycerol with a viscosity of $\eta_{20^\circ} = 1{,}499$ cpoise was used. From all the fillers investigated the experimental alumosilicagel No. 4 showed the best results. The structural viscosity and the shear stress limit increase with an increase in the amount of thixotropic filler. The physical-mechanical properties were investigated on a sample with 7 % U-333 powdered silica gel. It was shown that the introduction of a thixotropic filler does not affect the physical-mechanical properties of the sample. The absorption of water by the glass plastics[15] material and the drop of resistance after holding in sea water are also not affected. There are 5 tables, 6 figures and 5 references: 4 Soviet and 1 English.

SUBMITTED: March 29, 1960

Card 2/2

LEVITSKAYA, Ol'ga Mikhaylovna; BRESLER, Vil'yam Aronovich; SHTRAYKHMAN, G.A., red.; KATSNEL'SON, N.Ye., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Practices in the manufacture of products from glass polyester plastics]Opyt proizvodstva izdelii iz poliefirnykh steklopla-stikov. Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Sinteticheskie materialy, no.1) (MIRA 15:9)

(Glass reinforced plastics)

ARKHANGEL'SKIY, Boris Aleksandrovich, prof.; BARANOV, V.S., inzh., retsenzent; GUREVICH, Ye.S., kand. khim. nauk, retsenzent; KUSKOVA, A.I., red.; SHTRAYKHMAN, G.A., nauchnyy red.; FRUMKIN, P.S., tekhn. red.

[Plastics; manual on the use of plastics in shipbuilding and allied technical fields] Plasticheskie massy; spravochnoe posobie po primeneniiu plasticheskikh mass v sudostroenii i v smezhnykh oblastiakh tekhniki. Leningrad, Sudpromgiz, 1961. 719 p. (MIRA 15:4)
(Plastics) (Shipbuilding—Supplies)

20510

S/064/61/000/003/004/009
B101/B203

15.8109 2209

AUTHORS: Al'shits, I. M., Shtraykhman, G. A., Rudkovskiy, D. M., Luchko, R. G., Remiz, Ye. K.

TITLE: Slow-burning polyester resins on the basis of pentaerythrite dichloro hydrin

PERIODICAL: Khimicheskaya promyshlennost', no. 3, 1961, 26-28

TEXT: Glass-reinforced polyesters are widely used for the production of large-sized goods (hulls, automobile hoods). For this purpose, they must have a reduced combustibility. The physicomechanical properties of the resin are deteriorated by the hitherto described methods of reducing the combustibility: 1) the use of acid chlorides or phosphorus-containing acids, 2) replacement of styrene by halogen- or phosphorus-containing compounds, 3) addition of organophosphorus or organohalogen compounds to the resin. Therefore, it was the object of the present study to produce slow-burning resins on the basis of chlorine-containing alcohols. It was assumed that the chloromethyl-, methyl-, and ethyl side radicals of such alcohols would improve the heat resistance, compressive strength, and

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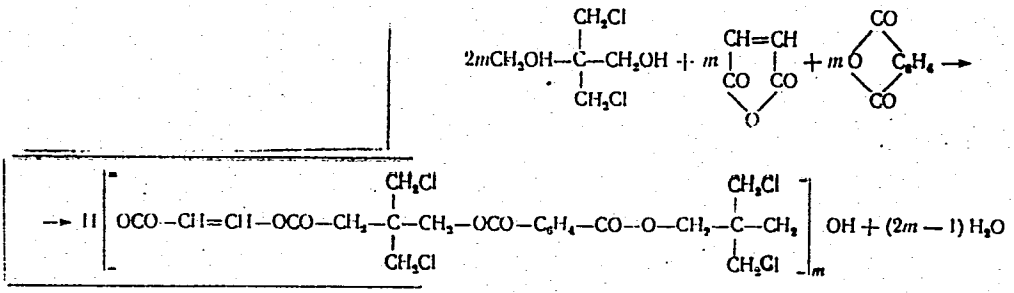
other properties of polyester resins and glass-reinforced plastics made of them, and that their considerable chlorine content would reduce their combustibility. A procedure for direct hydrochlorination of pentaerythrite was developed. 136 g of pentaerythrite, 150 g of benzine (boiling point 150-180°C), and 10 g of organic acid (C_4 - C_6 acids or industrial acids obtained by oxidation of solid paraffin) were heated, and hydrogen chloride was bubbled through at 160-165°C. The reaction was carried on until two hydroxyl groups were substituted by Cl. Total duration of the reaction 6-7 hr. The chlorohydrins were separated from the benzine, and fractionated at 3-4 mm Hg. Dichloro hydrin distilled over at 135-155°C. Its chlorine content was 39-40%, after recrystallization 40-41%, melting point 72-74°C, yield 60-68%. The esters of organic acids and of dichloro hydrin formed as by-products may be used for the synthesis of dichloro hydrin instead of fresh acids. The dichloro hydrin was used for the synthesis of polymaleinate dichloro-hydrin pentaerythrite phthalate:

Slow-burning polyester resins ...



The components were melted at 120°C, the temperature was slowly increased to 205°C under stirring, and held there for an hour. The total duration of polymerization was 5.5-6 hr. 3.9 ml of water was separated per 100 g of mixture. The resin yield was 86%. The resin had the following characteristics: viscosity of the 10% solution in acetone 0.488 cpoise; acid

number 40-50; saponification number 520-550; degree of esterification 90.7%; color, lemon-yellow. 30% of styrene was added to this vitreous resin at 70°C in the presence of 0.01% of hydroquinone. The viscosity of the combined resin determined by means of a ВЗ-4 (VZ-4) viscosimeter was 8 min 50 sec. On addition of 3% of isopropyl benzene hydroperoxide and 2% of 40% styrene solution of cobalt naphthenate, gel formation took place afer 1.5 hr. The solidified resin had a specific gravity of 1.28; heat resistance according to Vicat 115; Brinell hardness 18.8 kg/mm^2; chlorine content 18.6%; water adsorption during 24 hr, 0.038%. Exposed to a spirit alcohol flame for one minute, it was extinguished after 20 sec, whereas industrial ПН-1 (PN-1) diethylene glycol maleinate resin was burnt up completely. With addition of 1% of Sb, it was extinguished after 2 sec. Glass textolite made of this resin and АСТТ-6 (ASTT-b) glass fabric (ratio 1:1) was extinguished after 15 sec after having been exposed to a gas flame for two minutes. The loss in weight was 5%. The glass textolite had a specific gravity of 1.65, breaking strength 2750 kg/cm^2, bending strength 2700 kg/cm^2, compressive strength 1400 kg/cm^2, resilience 160 kg/cm^2, water adsorption within 24 hr, 0.1%. There are 20 references: 2 Soviet-bloc and 18 non-Soviet-bloc.

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S/080/61/034/002/025/025
A057/A129

AUTHORS: Al'shits, I.M., Shtraykhman, G.A., Lushko, R.G., Tsubina, Kh.V.

TITLE: Difficultly inflammable polyester resins on the basis of di- and trichloromethyl derivatives of pentaerythrite

PERIODICAL: Zhurnal Prikladnoy Khimii, v 34, no 2, 1961, 468-469

TEXT: This is the 2nd communication on "Unsaturated polyester resins and glassfiber-containing plastics on the basis of chlorine-containing alcohols". For the first time the new name selfquenching unsaturated polyestermaleate resin is used and characterized. The main chain contains dichloromethylolmethane links and the end groups are trichloromethyl derivatives of methylolmethane. On the basis of this resin difficultly inflammable glassfiber-containing plastics with high physical and mechanical properties were obtained by the contact method. Preparation of bis (tri-

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Difficultly inflammable polyester resins ...

chloromethylmethylolmethane)polydichloromethyldimethylolmethanemaleate-phthalate: Maleic and phthalic anhydride, as well as dichloromethylmethylol-methane (somewhat less than stoichiometric ratio) were mixed and the reaction carried out by mixing with CO_2 stream. Heating occurs in a metal bath (Wood's alloy) and the temperature was raised stepwise. The polyesterification process is controlled by the change in acid number and the yield of the condensate. At 180°C pentaerythrite trichlorohydrine is added in such an amount that the total content in hydroxyl groups in the reaction is predominant. Duration of the process is 8-8.5 hrs. Characteristics of the obtained polyester are: solid glass-like transparent substance, acid number 46, esterification degree 90.7, melting point 40°C. This resin was mixed with styrene on a water bath at 70°C using as inhibitor 0.01% hydroquinone. Properties of the resin obtained by hardening at room temperature with 3% isopropylbenzene peroxide and 2% styrene solution of cobalt naphthenate (40%) are: time of gelatination 2.5 hrs, specific gravity 1.21, hardness (Brinell) 20.04 kg/mm^2, thermostability by Vick 121°C, water absorption in 24 hrs 0.05%, chlorine content 18.9%, bending strength limit 600 kg/cm^2, compression strength limit 1,050 kg/cm^2, duration of burning

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Difficultly inflammable polyester resins ...

after being in a gas burner flame for 2 minutes 5 seconds. Using glass gauze of the АСТТ-б(С)$_2$ (АСТТ-б(S)$_2$) type in a ratio of 1 : 1 with the obtained resin a glassfiber-containing plastics material was manufactured by the contact method (without pressure and heating). Hardening was carried out with isopropylbenzene peroxide and cobalt naphthenate. The following physical and mechanical properties of the obtained plastics were determined: specific gravity 1.68, water absorption in 24 hrs 0.1%, tensile strength limit 2,800 kg/cm^2, bending strength limit 2,450 kg/cm^2, strength limit of compression in direction parallel to the layers 1,350 kg/cm^2, specific resilience 170 kg·cm/cm^2. The experiments concerning the inflammability using the "fire tube" method demonstrated that by adding 1% antimony trioxyde to the plastics material an immediate selfquenching takes place after taking the material from the flame. The loss in weight is 3.3%. Concluding the authors thank D.M. Rudkovskiy and Ye.K. Remiz for their help.

SUBMITTED: September 14, 1960

Card 3/3

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26867
S/080/61/034/004/008/012
A057/A129

AUTHORS: Shtraykhman, G. A., Al'shits, I. M., Meshcheryakow, V.V., Mudrov, O. A., Levitskaya, O. M.,

TITLE: Copolymers of the polyesters of maleic and methacrylic acid - a new type of binder for glass-reinforced plastics

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 4, 1961, 888 - 894

TEXT: A method for the preparation of a new type (MA-3 [MA-3]) of unsaturated polyester resins is described. The resins are solutions of maleate polyesters in polyesters of methacrylic acid, which are copolymerized by adding some initiator hardener mixtures. The resulting MA-3 polyester does not contain volatile monomers (such as styrene, methylmethacrylate etc.). Hence more hygienic work conditions were attained by using MA-3 polyester resin as binder for glass--reinforced plastics. The latter have better mechanical properties then glass--reinforced plastics based on ПН-1 (PN-1) maleate polyester resin or 911-МС (911-MS) acrylate polyester binder. An improvement of technology is also attained since MA-3 resin has a longer gelatination time. Unsaturated resins called acrylate polyester resins were developed in the USSR by A. A. Berlin et al. (Ref. 6:

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Copolymers of the polyesters of maleic .....

Vysokomol. soyed., 1,7, 951, 1959; Ref. 7: Vysokomol. soyed., 1,7, 957, 1959). These resins are products of the polycondensation of glycols and glycerine with dibasic saturated acids (phthalic or sebacic acid) and monobasic methacrylic acid. The introduction of a monobasic unsaturated acid makes possible regulation of the chain growth in the polyesterification process and thus manufacture of acrylate polyesters with a different degree of polymerization. According to Ya. D. Avrasin and A. I. Prigoreva (Ref. 8: Plast. massy, 1, 13, 1960) properties of glass-reinforced plastics based on acrylate polyesters are caused by the functional force and distance between the unsaturated acrylic end-radicals in the polyester chain. Another common polyester resin is the maleate polyester resin described by P. Z. Li et al. (Ref. 5: Plasticheskiye massy, 2, 19, 1959). A drawback of the manufacture of both types, acrylate and maleate polyesters is evolution of styrene vapors which produce a highly poisoned atmosphere. For this reason in the present work the production of polyester resins not containing volatile poisonous compounds and having good physical and mechanical properties was investigated. Preparation of copolymers of maleate polyesters and low molecular acrylate polyesters with the ability to be solvent and copolymerization component according to a patent of the present authors (Ref. 9: Soviet patent no. 132819,

1960), was selected for this purpose. Maleate-phthalate polyethylene glycol was sinthesized and had a higher softening point than the product manufactured by the industry (softening point 45 - 50°C, hard yellow resin, acid number in mgKOH/g of resin - 40-50, viscosity according to VZ -4, of a 50 % solution in styrene at 20°C 4,900 sec.). During polycondensation the temperature was raised gradually up to 200°C and the process was controlled by measuring the acid number and the amount of condensate. The product was dissolved at 70 - 80°C in a mixture of equal parts of dimethacrylate-triethyleneglycol and dimethacrylate (bis--triethyleneglycol) phthalate. This mixture was copolymerized at 20°C by adding an initiator-accelerator system as hardener. For the latter following systems were tested by estimating the gelatination time: isopropylbenzene hydroperoxide - cobalt naphthenate, benzoyl peroxide - dimethylaniline, methylethylketone peroxide - cobalt naphthenate (both imported substances). Optimum results (gelatination time 9 hours) were obtained with the last-mentioned system (2% + 2%). Optimum gelationation time (8 hours) with a Soviet hardener was obtained with 3 % isopropylbenzene hydroperoxide + 5 % of a 40 % solution of cobalt naphthenate in styrene. Thus all further tests were carried out using this hardener. It was observed that the hardening ends after 25 days, then the resin has the properties compared in Table 4 and 5 with those of the PN-1 resin. Hardening exotherms (determined by Kh. V. Tsubina) are shown in Figure 3. Using glass gauze

Copolymers of the polyesters of maleic ....

ACTT(δ)C_2 (ASTT (b)S_2) satin 8/3 with and without removal of the lubricant) with the manufactured MA-3 resin, 5 and [illegible] mm thick sheets were formed and tested 25 days after preparation. The results are presented in Table 6, showing several advantages in relation to the PN-1 resin and 911-MS binder. Investigations carried out by Yu. A. Agashin, M. M. Tuchenko and P. V. Sidyakov in the Institut gigiyeny truda i profzabolevaniy (Institute of Industrial Hygiene and Occupational Diseases) demonstrated the advantage of using MA-3 resin instead of PN-1 resin considering sanitary conditions, since the total amount of styrene formed during hardening of PN-1 resin is 12 times greater than for MA-3 resin. There are 4 figures, 6 tables and 9 references: 6 Soviet-bloc and 3 non-Soviet-bloc. The two references to the English-language publications read as follows: Johan Bjorksten. Polyesters and their applications., N. Y., 1956; Phillip Morgan, Glass Reinforced Plastics, London, 1957.

SUBMITTED: August 4, 1960

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CHERNYAK, Konstantin Isaakovich; SHTRAYKHMAN, G.A., kand. tekhn. nauk, retsenzent; BOGORODITSKIY, N.P., prof., nauchnyy red.; APTEKMAN, M.A., red.; FRUMKIN, P.S., tekhn. red.

[Epoxy compounds and their use] Epoksidnye kompaundy i ikh primenenie. Izd.2., perer. i dop. Leningrad, Sudpromgiz, 1963. 254 p. (MIRA 16:5)
(Epoxy resins)
(Electric insulators and insulation)

L 65133-65 EWT(m)/EPF(c)/EWP(v)/EWP(j)/T WW/RM

ACCESSION NR: AP5021597 UR/0286/65/000/013/0070/0070

AUTHORS: Shtraykhman, G. A.; Babenkova, Ye. A.

TITLE: A method for obtaining epoxy compounds. Class 39, No. 172488

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 70

TOPIC TAGS: epoxy, adhesive material, bonding, protective coating, hardening

ABSTRACT: This Author Certificate presents a method for obtaining epoxy compounds, for, say, adhesives, protective coating, and bonding. Oligomers containing tertiary aminogroups are used as hardeners. To improve the technical and physico-mechanical indices, use is made of azidine oligomers -- oligomer ethyleneimino-polyesters, as, for instance, di-(ethyleneiminopropionate)-ethylene glycol or di-(ethyleneiminopropinate)-bis-(ethyleneglycol)-ethyleneiminosuccinate.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy (Institute of High-Molecular Weight Compounds)

SUBMITTED: 11Jul64 ENCL: 00 SUB CODE: OC

NO REF SOV: 000 OTHER: 000

Card 1/1

ACC NR: AP6021450 (A) SOURCE CODE: UR/0413/66/000/011/0073/0073

INVENTORS: Gladkikh, A. F.; Ivanov, N. N.; Shtraykhman, G. A.

ORG: none

TITLE: A method for obtaining reactive copolymers. Class 39, No. 182331 [announced by Institute of Highmolecular Compounds, Academy of Sciences SSSR (Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 73

TOPIC TAGS: polymer, copolymer, copolymerization, vinyl, ester

ABSTRACT: This Author Certificate presents a method for obtaining reactive copolymers by radical copolymerization of vinyl compounds and glycydil esters of unsaturated acids. To increase the assortment of reactive polymer materials, glycydil esters of unsaturated aromatic acids are taken as glycydil esters.

SUB CODE: 11/ 07/ SUBM DATE: 15Feb65

Card 1/1 UDC: 678.766.44-134

8(6) SOV/112-59-2-2540

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 2, p 37 (USSR)

AUTHOR: Zykov, S. A., Gusakovskiy, K. B., Kraemer, Yu., Slepnev, L. N., and Shtregober, V.

TITLE: Some Problems in Designing Super-Power Turbine Units (Nekotoryye voprosy proyektirovaniya sverkhmoshchnykh turboagregatov)

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1957, Nr 9, pp 38-45

ABSTRACT: As a result of calculations made, recommendations are offered for designing the lower-pressure part of high-power turbines; these recommendations allow for the effect of steam pressure in the condenser and for the effect of the end area of the last stages on economical operation of the turbine. The turbine-unit maximum power vs. the heat-power-cycle parameters is presented. The expediency of using several exhausts, 2-tier blades, and 2-shaft turbine units is considered.

M.A.T.

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SHTREKHER,S.M., SHUTO,V.D., SKURATOV,S.M.,Docent, STREPIKHEYEV,A.A.,Prof.,

MUROMOVA,R.S., KACHINSKAYA,O.N.,and BRYKINA,Ye.P.

"The Heat of Combustion of Lactema and Amino," a paper given at the All-University Scientific Conference "Lomonosov Lectures," Vest. Mosk. Un., No. 8, 1953

Translation U-7895 1 Mar 56

SHTREM, O. F.

Shtrem, O. F.

"Investigation of milling as a method of repairing shafts for fixed installation." Min Higher Education USSR. Moscow Automobile and Road Inst imeni V. M. Molotov. Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Sciences).

Knizhnaya letopis'
No. 21, 1956. Moscow.

ШТРЕМ, О.Ф.

137-58-3-5125

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 94 (USSR)

AUTHOR: Shtrem, O. F.

TITLE: Investigation of a Method for the Reconditioning of Worn Shafts by Means of Knurling (Issledovaniye sposoba vosstanovleniya iznoshennykh valov nakatkoy)

PERIODICAL: Remont avtomobiley. Nr 1. Moscow, Avtotransizdat, 1956, pp 207-235

ABSTRACT: The possibility of employing knurling (K) for the purposes of reconditioning components (C) with tight fits is investigated theoretically and experimentally. An analytical method is developed for the computation of the advance ratio of the knurl, the losses in the built-up surface, and the permissible limits for its reduction, as well as the limits for the knurling stress. These data are verified experimentally together with strength and wear-resistance tests on the reconditioned C's. It is pointed out that the specimens, the surface of which was polished after K, exhibit greater fatigue strength than the smooth, polished specimens. Maximum wear resistance of the knurled surface amounts to 78 percent of that of a smooth surface. K

Card 1/2

Investigation of a Method for the (cont.)

is recommended for the restoration of worn areas on shafts fitting tightly within bearings which are free to rotate, and which are subjected to pressures up to 70 kg/cm^2. Related to the cost per kilometer of run, the cost of restoration of a C by means of K is approximately equal to that of a chromeplated C and is considerably lower than the cost of a metal-coated or sleeved C.

M. Ts.

Card 2/2

SHTREM, O.

Cooperation of production workers with scientists. Avt. transp. 34 no.12:29-30 D '56. (MLRA 10:2)

1. Glavnyy inzhener 5-go avtoremzavoda.
(Automobiles--Repairing)

SHTREM, O.; TAVROVSKAYA, R.

Using caustic soda solution for removing paint from cabins and trim parts of motortrucks. Avt.transp. 35 no.11:21 N '57. (MIRA 10:12)

1.5-y avtoremontnyy zavod Mosgorispolkoma.
(Motortrucks--Repairing)

BILOV, Yefim Solomonovich, kand.tekhn.nauk; SHTREM, O.F., red.; NIKOLAYEVA, L.N., tekhn.red.

[Repair of the basic surfaces of the cylinder block] Remont bazovykh poverkhnostei bloka tsilindrov. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1960. 59 p. (MIRA 14:3)
(Automobiles--Maintenance and repair)
(Automobiles--Engines--Cylinders)

*SHTRMEL' A. M.

"On the Origin of Bell's Phenomenon in Peripheral Paralyses of the Facial Nerve," Nevropatol. i. Psikhiat., 18, No. 1, 1949.

MALKINA, M.G. [author]; SHTREMEL', A.Kh. [reviewer].

Comments on M.G.Malkina's article "Treatment of acute chorea." Zhur.nevr.i psikh. 53 no.10:829 O '53. (MLRA 6:10)

(Chorea) (Malkina, M.G.)

SHTREMEL', A Kh

MIKHEYEV, V.V.; SHTREMEL', A.Kh

Rotatory variation of epileptic seizure. Zhur. nevr. i psikh. 54 no.7:553-558 Jl '54. (MLRA 7:7)

1. Klinika nervnykh bolezney Arkhangel'skogo meditsinskogo instituta i klinika nervnykh bolezney Moskovskogo meditsinskogo stomatologicheskogo instituta.

(EPILEPSY, physiology,
*rotatory variation of epileptic seizure)

SHTRTEL', A.Kh, kandidat meditsinskikh nauk

A syndrome simulating an attach of angina pectoris. Sov.med.19 no.8:69-71 Ag '55. (MLRA 8:10)

1. Iz Kotlasskoy mezhrayonnoy bol'nisty Arkhangel'skoy oblasti.
(ANGINA PECTORIS, differential diagnosis
radiculitis, dorsal)
(NERVES, SPINAL, diseases
radiculities, dorsal, differ.diag. from angina pectoris)

SHTREMEL', A.Kh.

Orientation reflex in the diagnosis of alse blindness. Zhur.nevr. i psikh. Supplement:79-80 '57. (MIRA 11:1)

1. Kotlasskaya mezhrayonnaya bol'nitsa.
(AMAUROSIS) (HYSTERIA) (ORIENTATION)

SHTREMEL', A.Kh., kand.med.nauk

Diagnosis of insultus and its prognosis in comatous conditions. Sov. med. 25 no.5:128 My '61. (MIRA 14:6)

1. Iz nervnogo otdeleniya Pskovskoy oblastnoy bol'nitsy (glavnyy vrach Ye.A.Razumovskaya).
(APOPLEXY)

SHTREMEL', A.Kh., kand.med.nauk (Pskov)

Paroxysmal myoplegia in Addison's disease. Klin.med. no.9:146-150 '62. (MIRA 15:12)

1. Iz pskovskoy oblastnoy bol'nitsy (glavnyy vrach Ye.A. Razumovskaya).

(PARALYSIS) (ADDISON'S DISEASE)

SHTRMEL', A.Kh.

Stammering in left parietal lobe syndrome. Zhur. nevr. i. psikh. 63 no.6:828-832 '63. (MIRA 17:6)

1. Nervnoye otdeleniye Pskovskoy oblastnoy bol'nitsy (glavnyy vrach Ye.A. Razumovskaya).

IVANOV,I.T., kand.tekhn.nauk; KHANIN,G.F.,inzh.; DUMASHOV,Yu.F., inzh.; KOLODEY,A.P., inzh.; IVANOV,V.P., inzh.; VEKSLER,Z.Ya., KUKUKOV,A.A., inzh.; SEMENENKO,V.A., inzh.; VISHNEVETSKIY,I.M., inzh.; SHTRENEL',G.Kh., inzh.; MARCHENKO,V.T., inzh.spets.red.; SMIRNOVA,R.N., red. izd-va; NAZAROVA,A.S.,tekhn. red.

[Technical specifications for conducting and inspecting general and special construction work in the capital repair of apartment houses]Tekhnicheskie usloviia na proizvodstvo i priemku obshchestroitel'nykh i spetsial'nykh rabot pri kapital'nom remonte zhilykh domov. Moskva, 1960. 447 p. (MIRA 15:4)

1. Russia (1917- R.S.F.S.R.)Ministerstvo kommunal'nogo khozyaystva.

(Apartment houses--Maintenance and repair)

IVANOV, I.T., kand.tekhn.nauk; KHANIN, G.F., inzh.; DUMASHOV, Yu.F., inzh.; KOLODEY, A.P., inzh.; IVANOV, V.P., inzh.; VEKSLER, Z.Ya., inzh.; KRYUKOV, A.A., inzh.; SEMENENKO, V.A., inzh. VISHNEVETSKIY, I.M., inzh.; SHTREMEL', G.Kh., inzh.; SMIRNOVA, R.N., red. izd-va; LELYUKHIN, A.A., tekhn. red.

[Technical specifications for carrying out and inspecting general and special construction work during major repairs of residential buildings] Tekhnicheskie usloviia na proizvodstvo i priemku obshchestroitel'nykh i spetsial'nykh rabot pri kapital'nom remonte zhilykh domov. Izd.2., bez izmenenii. Utverzhdeny prikazom Ministerstva kommunal'nogo khoziaistva RSFSR ot 26 aprelia 1960 g. No.118 i soglasovany s Gosudarstvennym komitetom Soveta Ministrov SSSR po delam stroitel'stva. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1962. 326 p. (MIRA 15:8)

1. Russia (1917- R.S.F.S.R.) Ministerstvo kommunal'nogo khozyaystva.
(Apartment houses--Maintenance and repair)

SHTREMEL', Georgiy Khristianovich; KARNEYEV, V.A., red.; SHCHERBAKOV, G.S., red.; VORONINA, R.K., tekhn. red.

[Load-lifting machinery] Gruzopod"emnye mashiny. Moskva, Vysshaia shkola, 1963. 269 p. (MIRA 17:3)

SOV/124-58-1-1296

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 160 (USSR)

AUTHORS: Rakhshtadt, A. G., Shtremel', M. A.

TITLE: A New Method for the Determination of the Elastic Limit on Thin Specimens (Novyy metod opredeleniya predela uprugosti na tonkikh obraztsakh)

PERIODICAL: V sb.: Metalloved. i termicheskaya obrabotka metallov (MVTU, Nr 41). Moscow, Mashgiz, 1955, pp 219-225

ABSTRACT: 100x5 mm strips, 0.2-0.3 mm thick, were subjected to buckling up to a prescribed deformation in the PMT-3 testing device. The residual deflection was measured under the microscope with an accuracy of up to 0.002 mm. The elastic limit was determined according to formulas adduced in the paper, with an allowance of 0.001-0.03% for residual deformation.

A. V. Bobylev

Card 1/1

FORTY, A.J.; SHTREMEL', M.A. [translator]; RAKHSHTADT, A.G., kandidat tekhnicheskikh nauk, redaktor; GORDON, L.M., redaktor izdatel'stva; MIKHAYLOVA, V.V., tekhnicheskiy redaktor

[Direct observations of dislocations in crystals. Translated from the English] Neposredstvennoe nabliudenie dislokatsii v kristallakh. Perevod M.A.Shtremelia, pod red. A.G.Rakhshtadta. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 57 p. (MLRA 9:11)

(Dislocations in crystals)